

SPod Deployment Plan

*Event Triggered Chloroprene Monitoring Around the Denka
Performance Elastomers Site*



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Timeline/Key Dates

- 9/30/2010: EPA updated the 1985 IRIS chloroprene assessment, changing its carcinogenicity category from "unclassifiable" to "likely to be carcinogenic to humans," and estimating a 100-in-1 million cancer risk from a continuous, lifetime inhalation exposure to 0.2 $\mu\text{g}/\text{m}^3$ chloroprene.
- 12/17/2015: EPA released the 2011 NATA, incorporating the updated IRIS cancer assessment for chloroprene and estimating the highest lifetime cancer risk in the US from ambient air pollution in the census tracts around the Denka plant in LaPlace, LA, primarily from chloroprene exposure.
- 10/25/2016: EPA released the NEIC inspection report from a June 2016 inspection, which identified several potential violations and concerns related to MACT and other requirements.
- 1/6/2017: Louisiana issued an administrative order on consent (AOC), requiring Denka to install controls including installation of a new a regenerative thermal oxidizer (RTO), and reduce chloroprene emissions by at least 85%.

Ex. 5 AC / Ex. 7(A)

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Current EPA Monitoring



- Purpose: To characterize the long-term ambient concentrations of chloroprene
- 24-hour time integrated air sampling for chloroprene using EPA Method TO-15
 - six locations (see slide 2)
 - began 5/25/2016
 - funded by OAR with Region 6 contractor oversight
- Data posted publicly: <https://www.epa.gov/la/denka-air-monitoring-data-summary>
- Initial sampling every 3rd day; switched to every 6th day beginning 3/1/2019, to conserve resources.

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Current EPA Monitoring Locations



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Current Denka Monitoring



- Sampling initially required by LDEQ administrative order on consent (1/6/2017)

Ex. 5 AC / Ex. 7(A)

- 24-hour time integrated air sampling for chloroprene, 1,3-butadiene, toluene, benzene and xylenes, using EPA Method TO-15
 - five locations (see slide 4)
 - began 8/16/2016
 - added sixth monitoring location on 10/26/2016
- Data reported to LDEQ and made public via their EDMS website
- Sampling is not on a consistent frequency (e.g. every 3rd day or 6th day).

Ex. 5 AC/DP / Ex. 7(a)

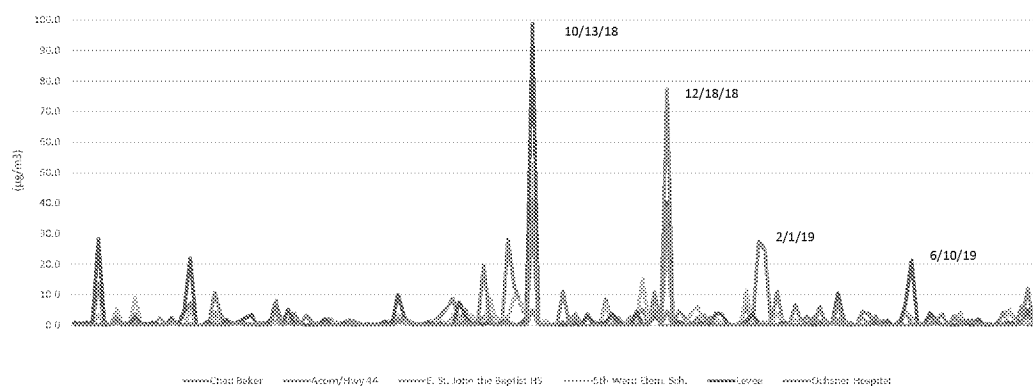
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Current Denka Monitoring Locations



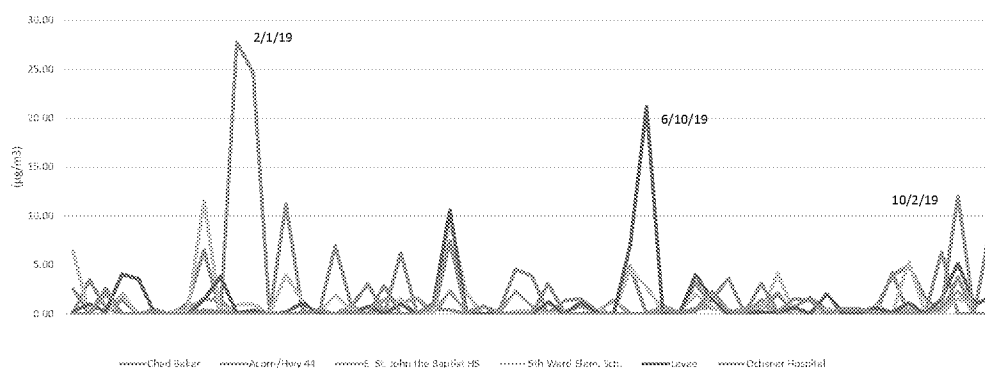
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Chloroprene Concentrations at EPA Monitors Mar. 1, 2018 to October 14, 2019



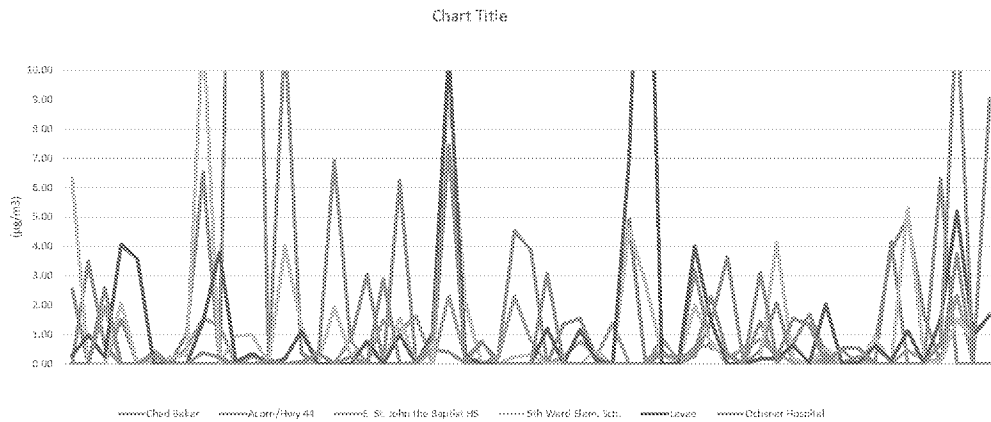
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Chloroprene Concentrations at EPA Monitors Jan. 1, 2019 to October 14, 2019



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Chloroprene Concentrations at EPA Monitors Jan. 1, 2019 to October 14, 2019 (vertical axis only to 10.00 $\mu\text{g}/\text{m}^3$)

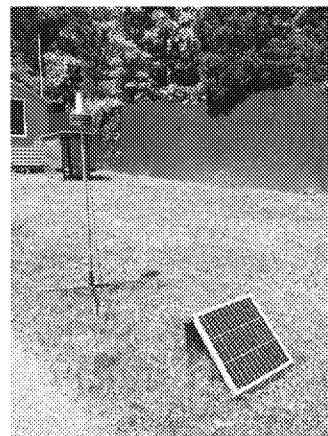


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SPod

- The SPod or Sensor Pod is a commercially available solar-powered sensor system comprised of existing proven technology:
 - Meteorological (MET) station to continuously measure wind speeds and directions;
 - Photoionization detector (PID) to continuously measure total VOC concentrations;
 - Data processing and memory board; and,
 - Cellphone modem to periodically transmit data.
- Dr. Eben Thoma of EPA's ORD, who developed the SPod concept, recommended purchasing SPods from Sensit, per his evaluations.
- AED purchased six Sensit SPods.



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SPod Specifications

- AED coordinated with ORD and conducted testing to verify that the SPod PID, equipped with a 10.6 eV lamp, is responsive to chloroprene.
- AED SPods will include an automated sampling system that is triggered by the PID data to collect 24-hour time integrated air samples for EPA Method TO-15 analysis when an SPod's PID detects elevated total VOC concentrations.
- Sample trigger concentrations will be determined by assessing the relationship between PID data and chloroprene concentrations in air samples.

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SPod Deployment Plan

- EPA will deploy the six AED SPods at the six existing EPA air monitoring locations.
- The purpose of the monitoring is to identify time periods when ambient chloroprene concentrations are elevated.
- Deployment tentatively scheduled for January 2020
- AED is developing a Quality Assurance Project Plan (QAPP) for the SPod deployment under EPA's quality management system.
- EPA will seek information from Denka to evaluate compliance and identify opportunities for additional emissions reductions when sampling indicates chloroprene concentration are elevated.
- AED, Region 6, and LDEQ are developing a communication plan for community and company engagement regarding the SPod deployment.

Ex. 5 AC/DP